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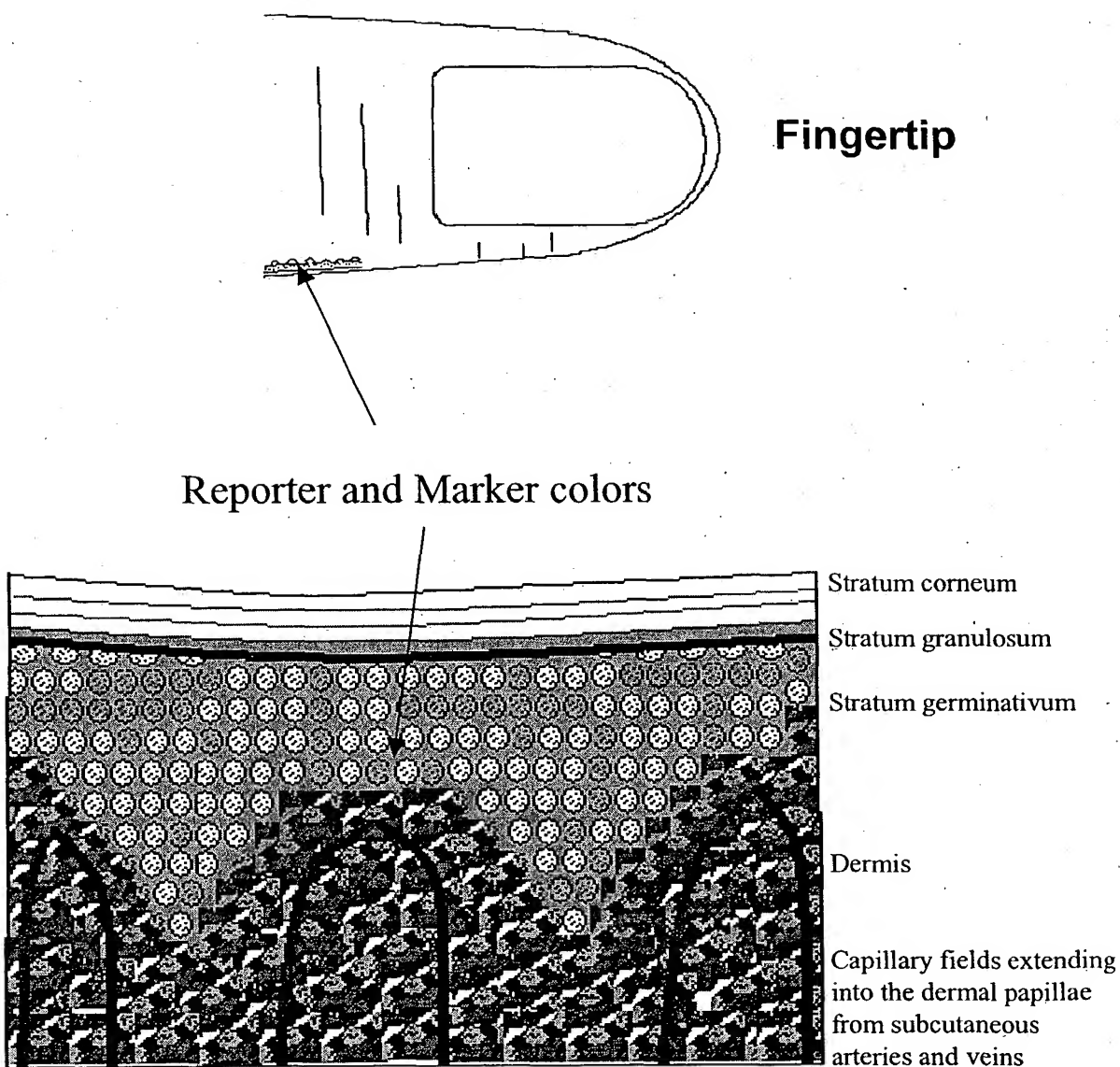


FIG. 1

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FIG. 2A

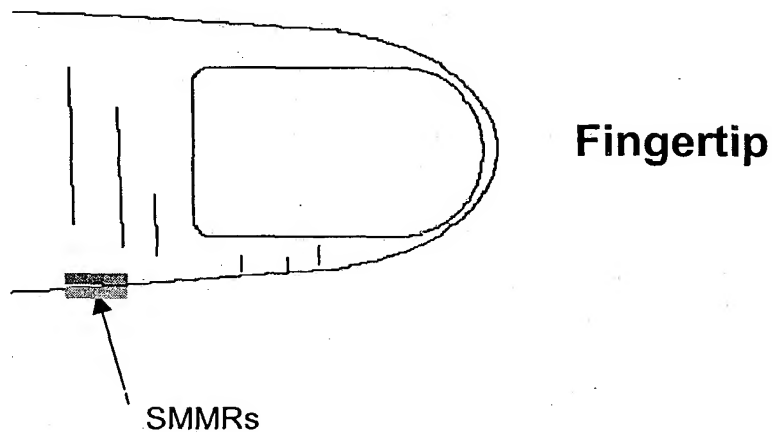
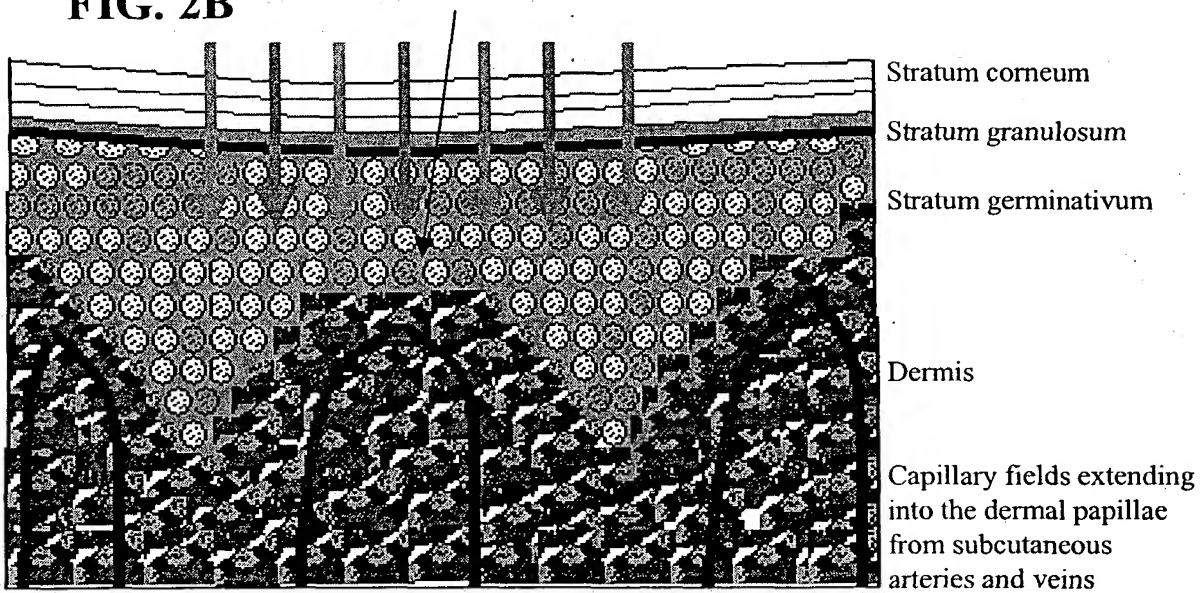


FIG. 2B



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FIG. 3A

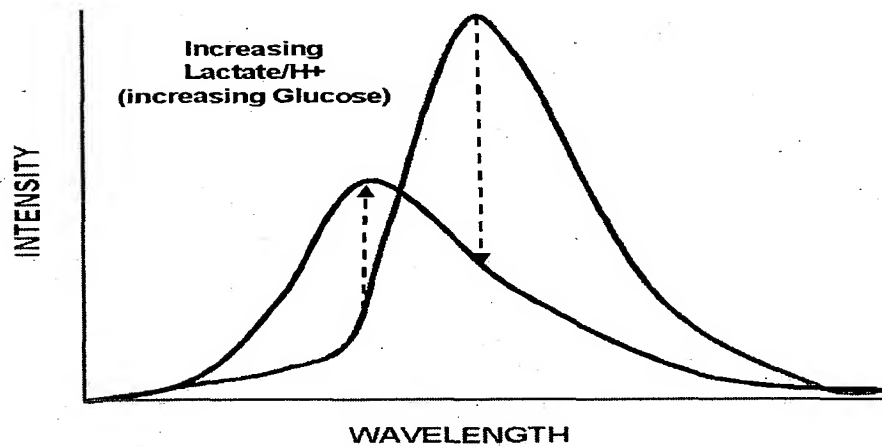
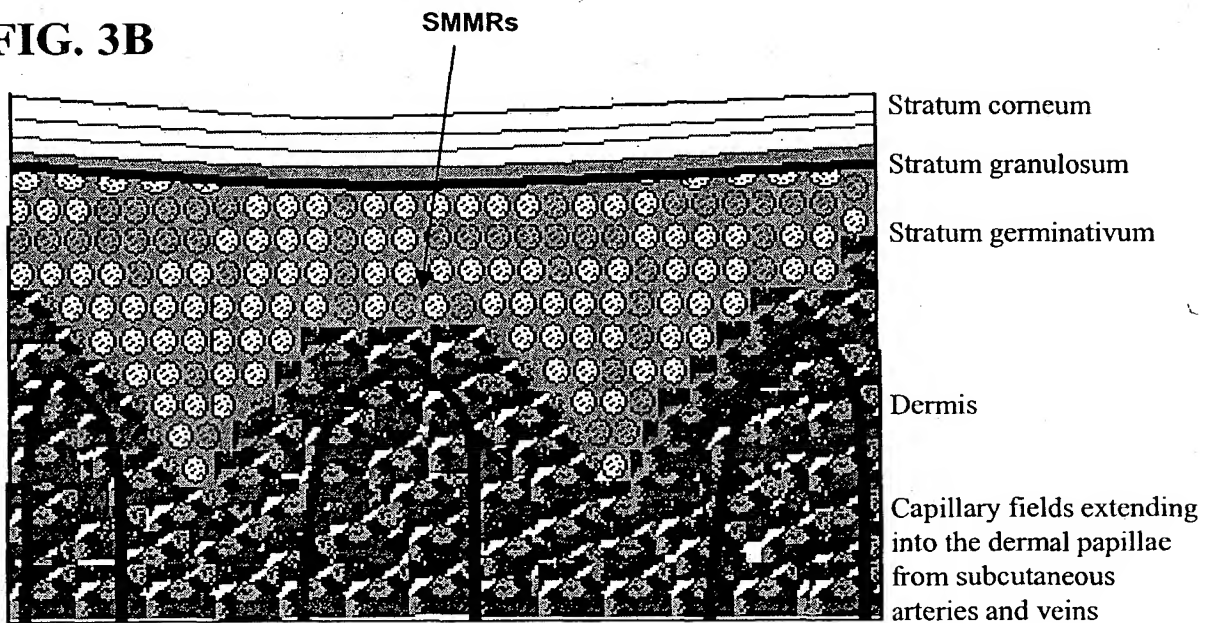


FIG. 3B



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FIG. 4A

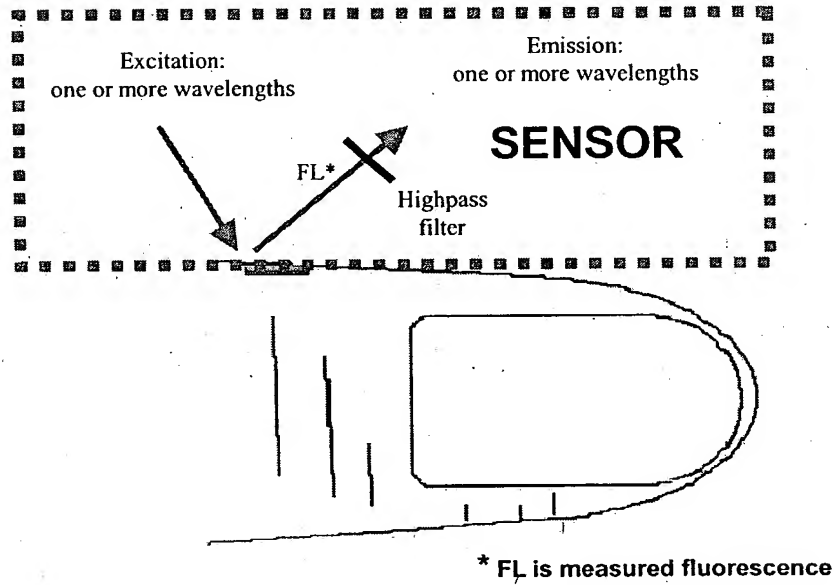
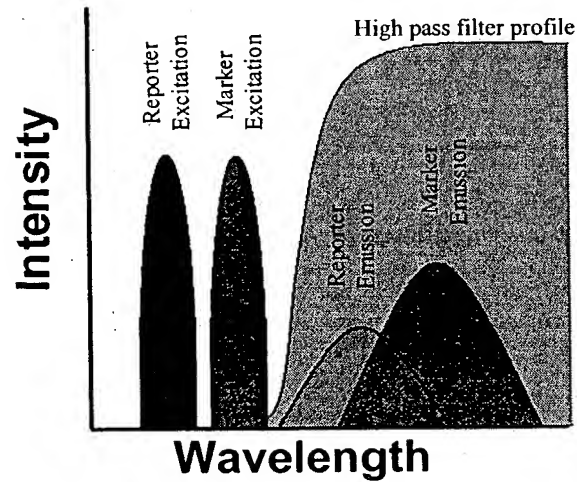


FIG. 4B



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FIG. 5A

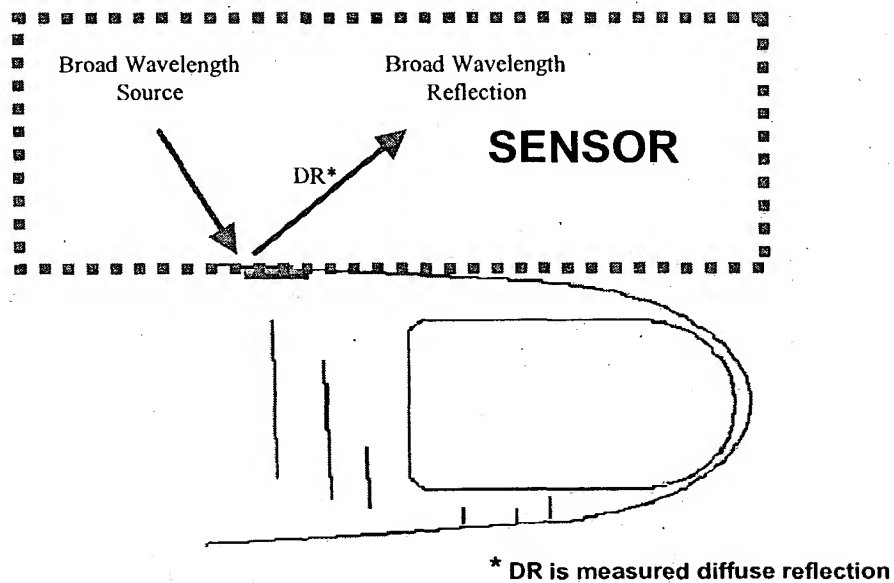
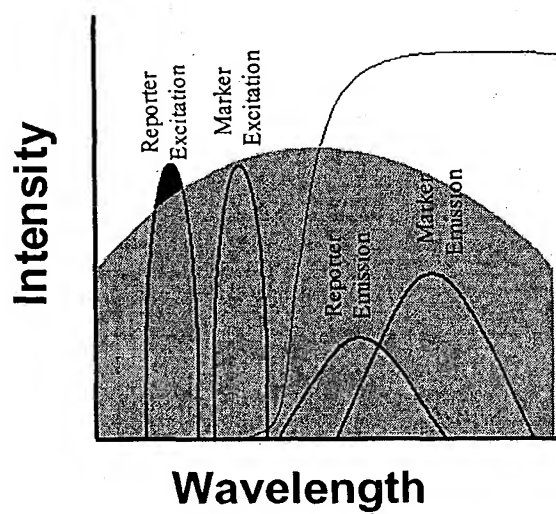


FIG. 5B



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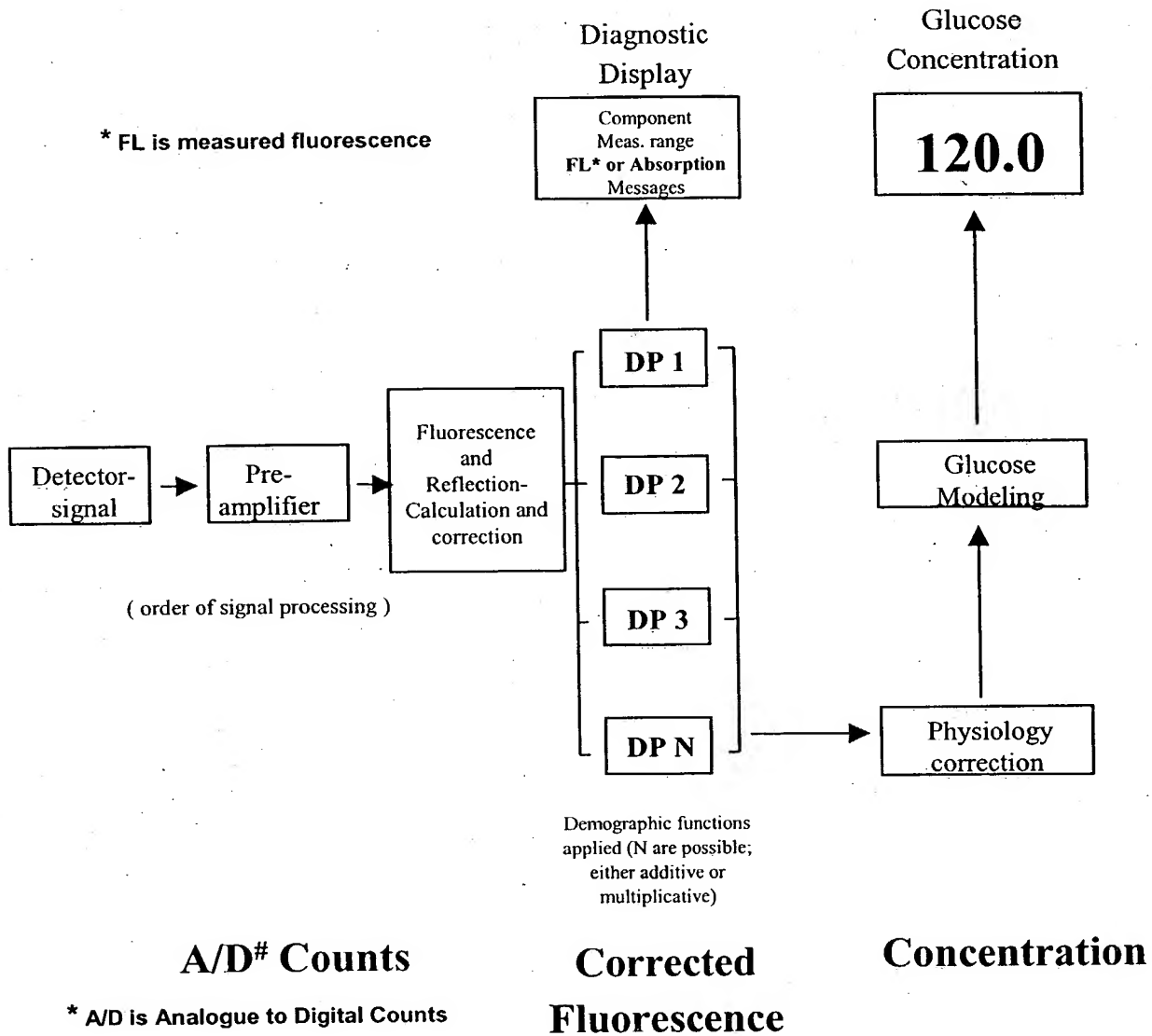


FIG. 6

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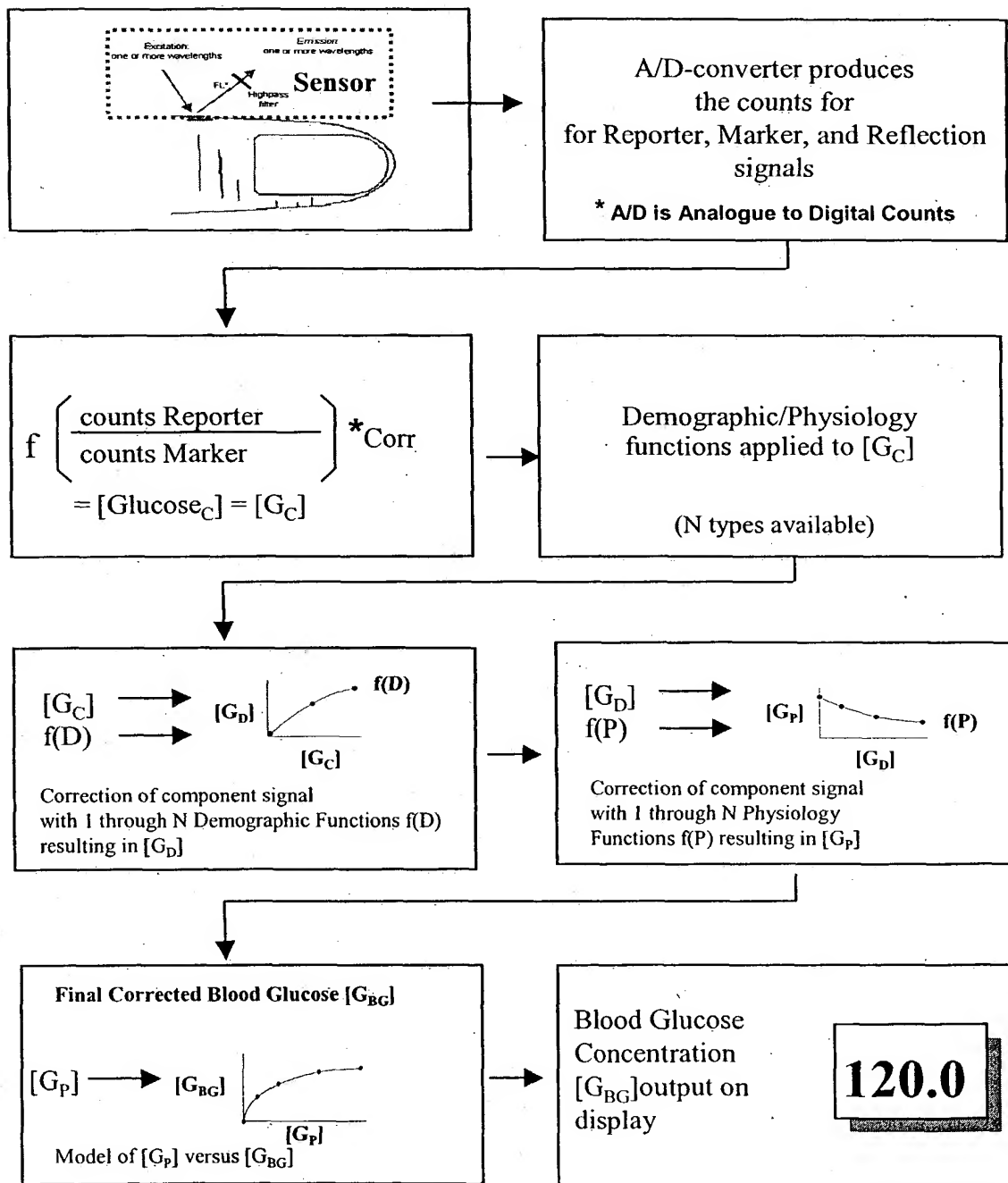


FIG. 7

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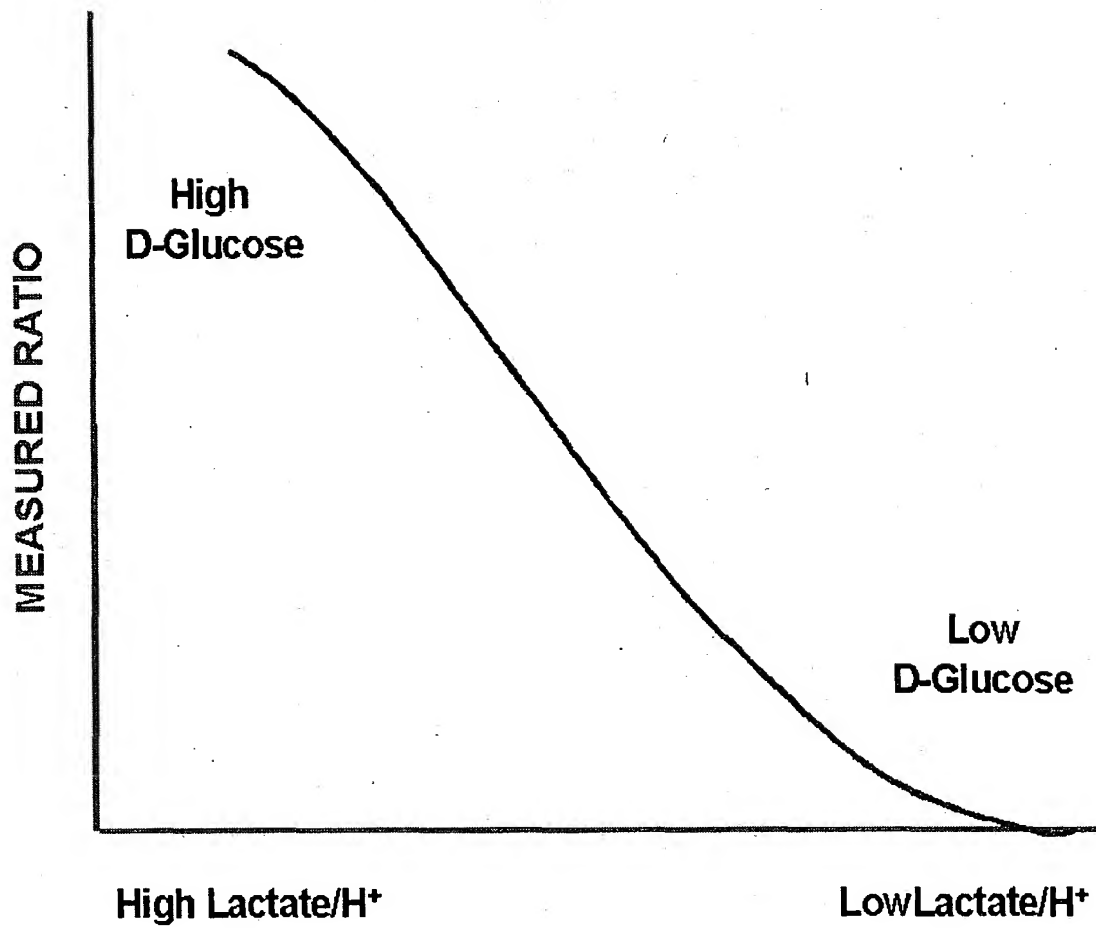


FIG. 8

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FIG. 9A

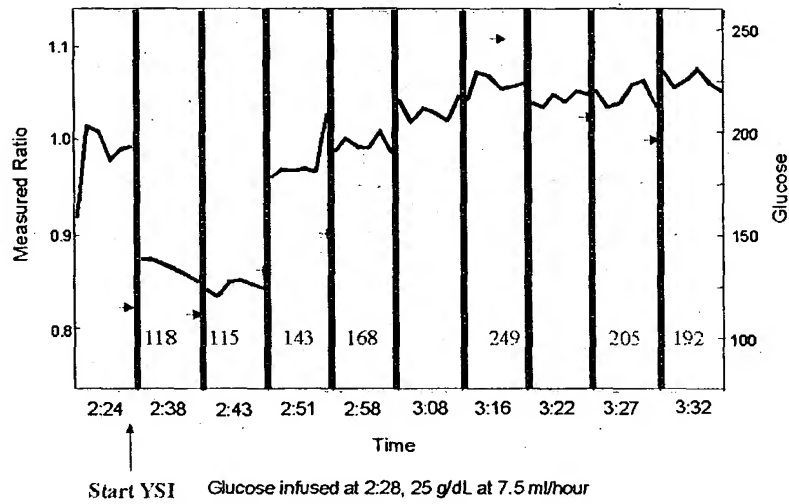
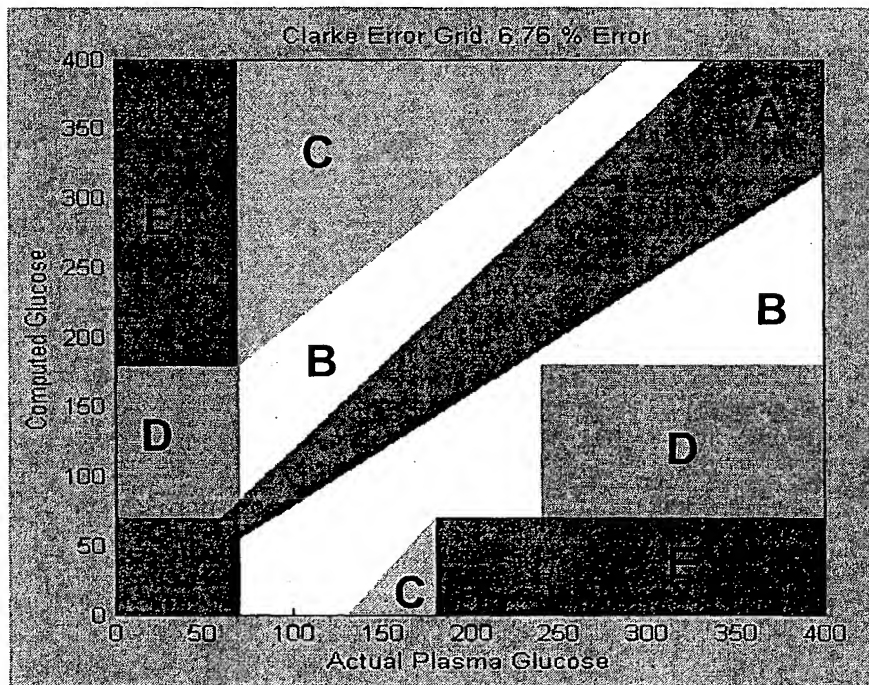
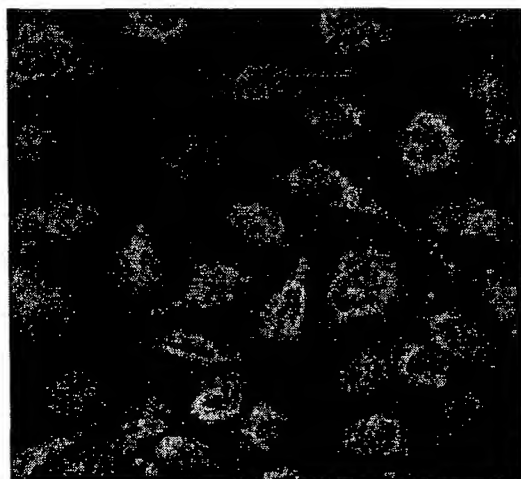


FIG. 9B



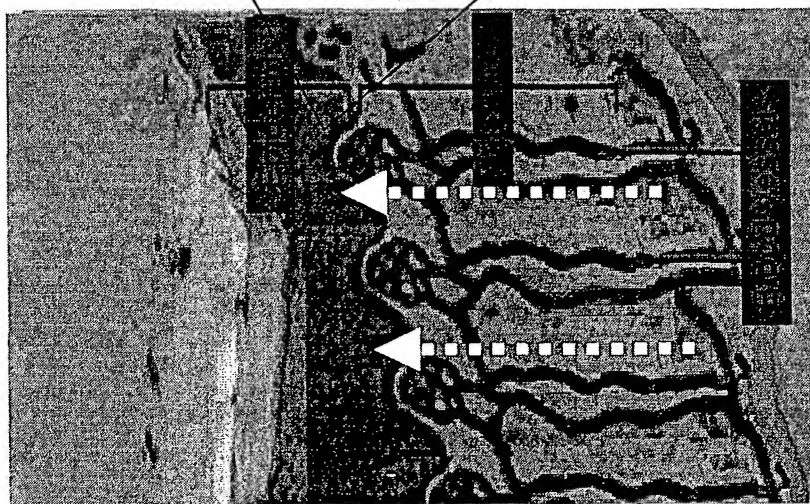
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FIG. 10B



Human keratinocytes

FIG. 10A



Human skin

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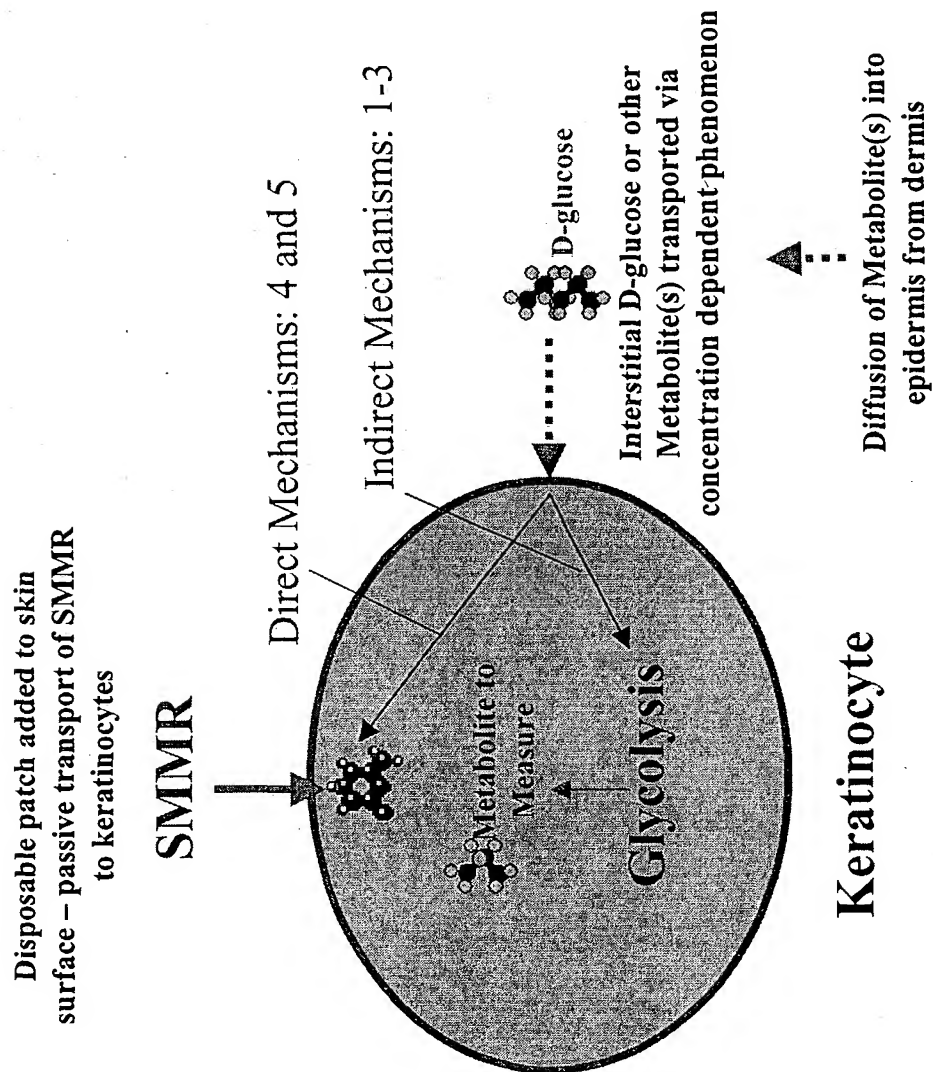


FIG. 11

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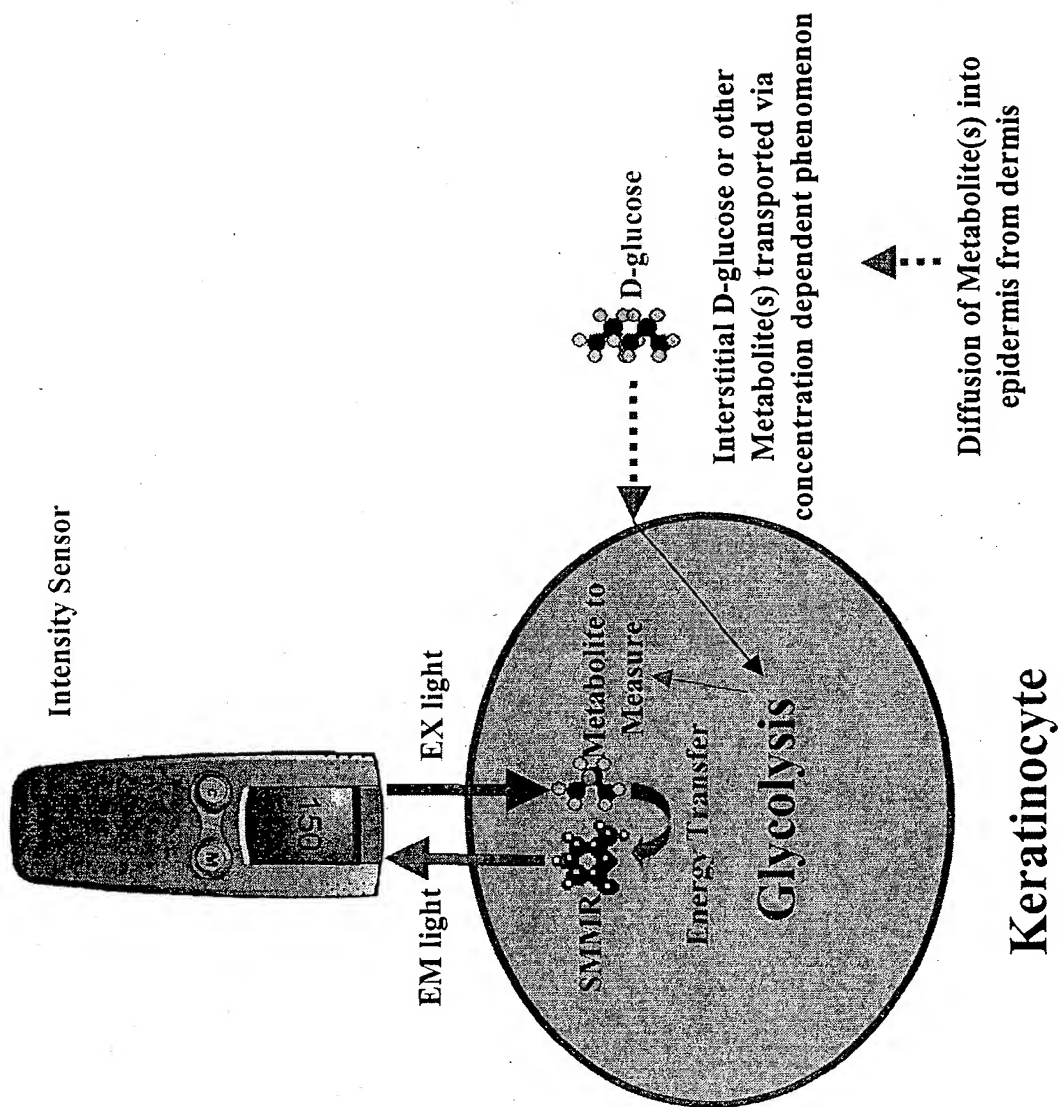


FIG. 12

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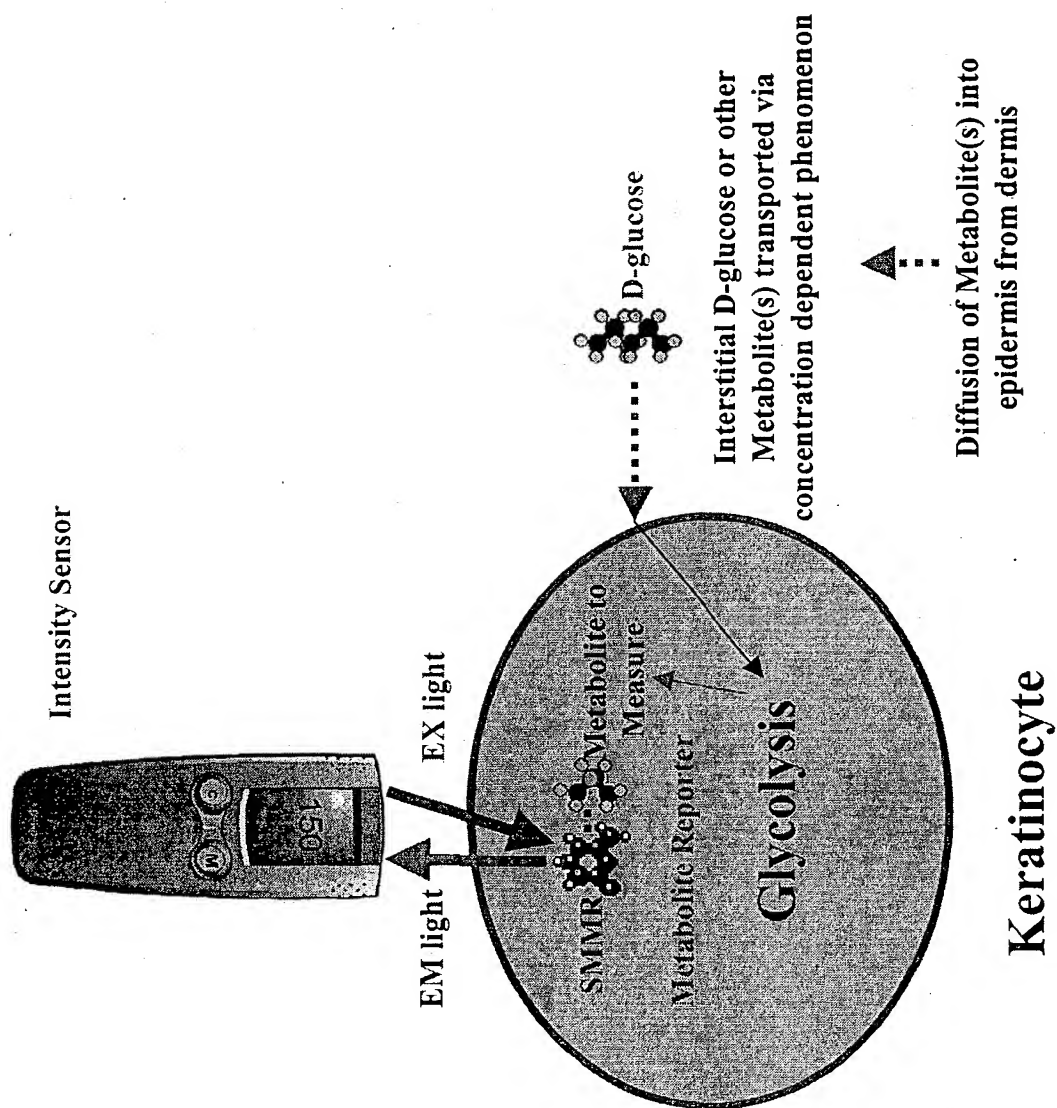


FIG. 13

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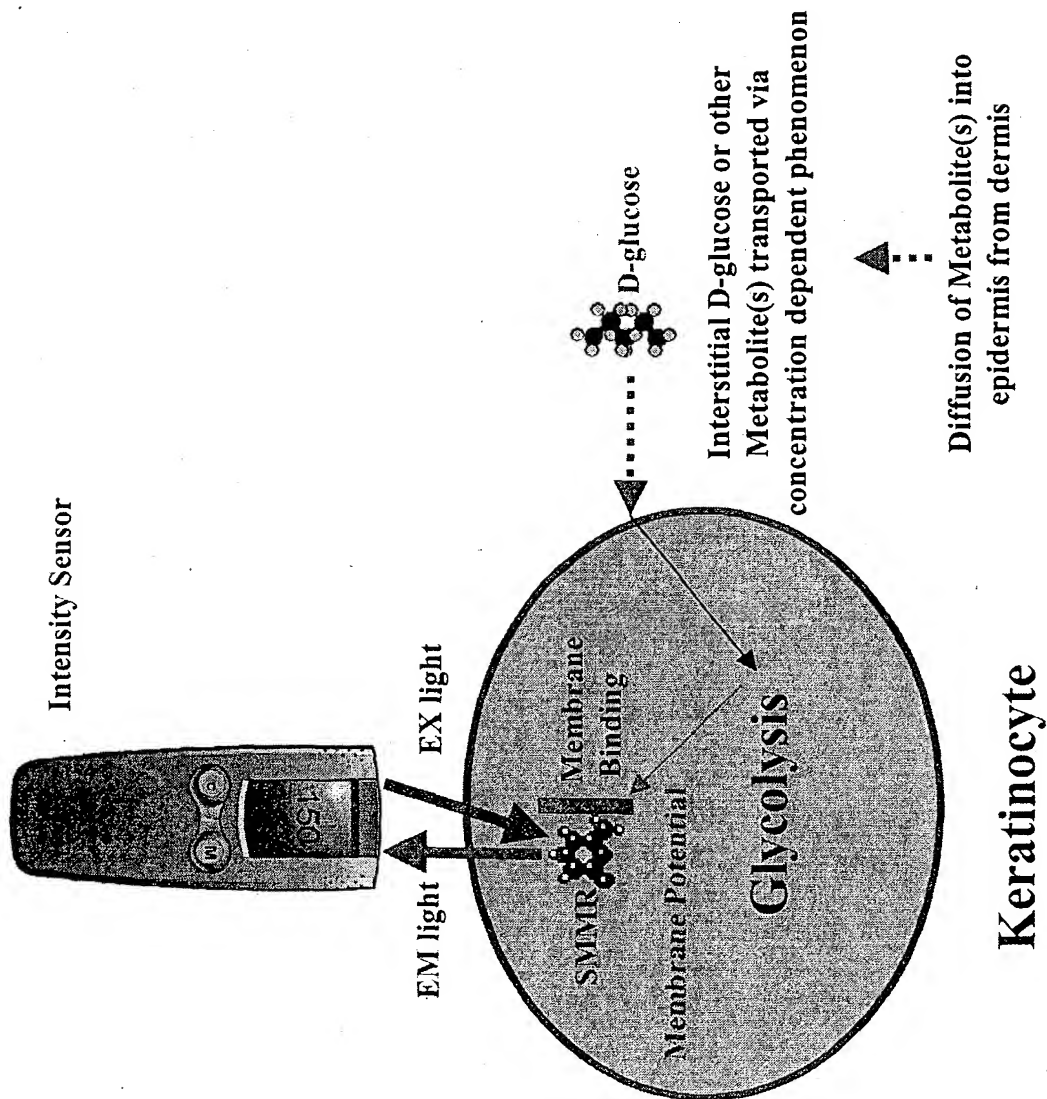


FIG. 14

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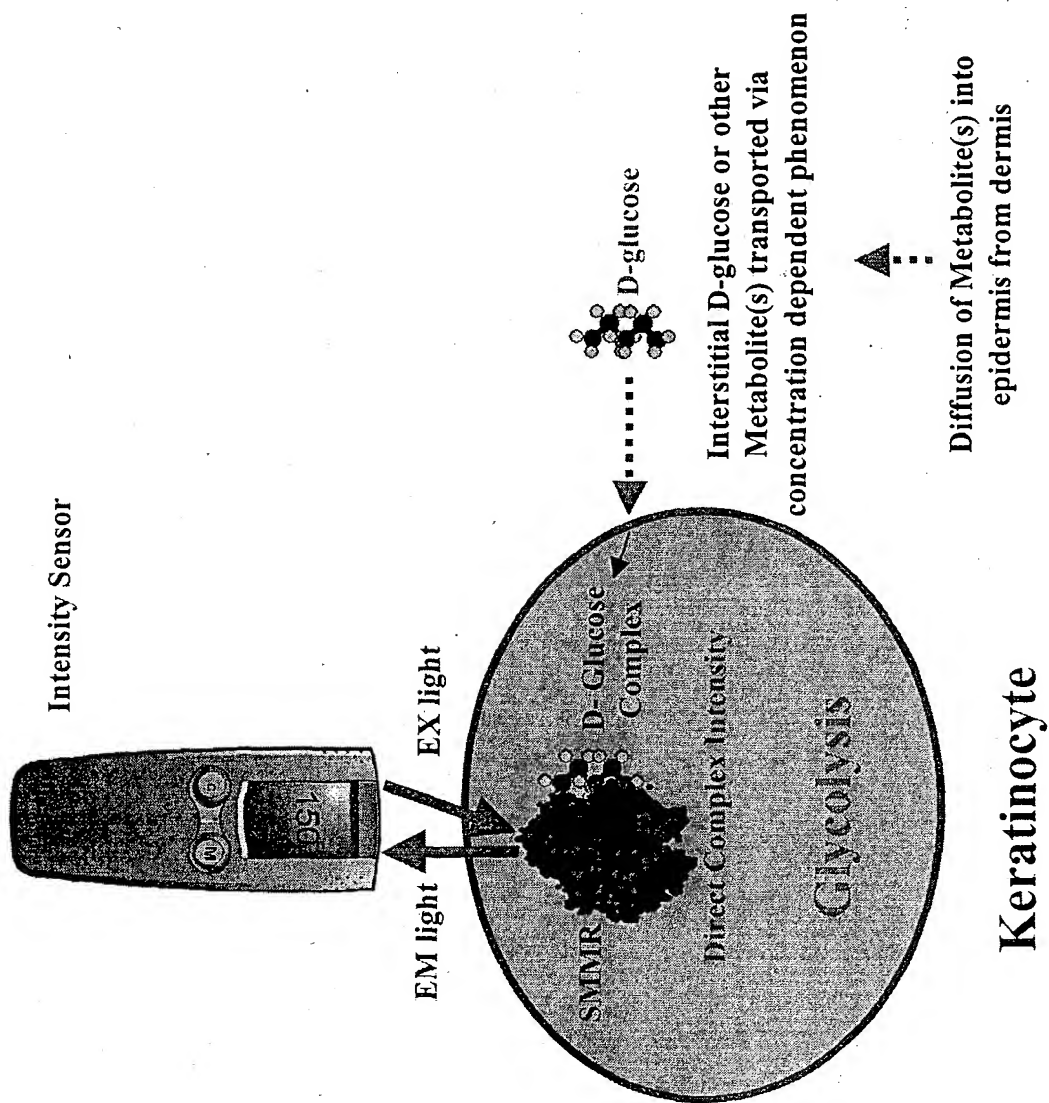


FIG. 15

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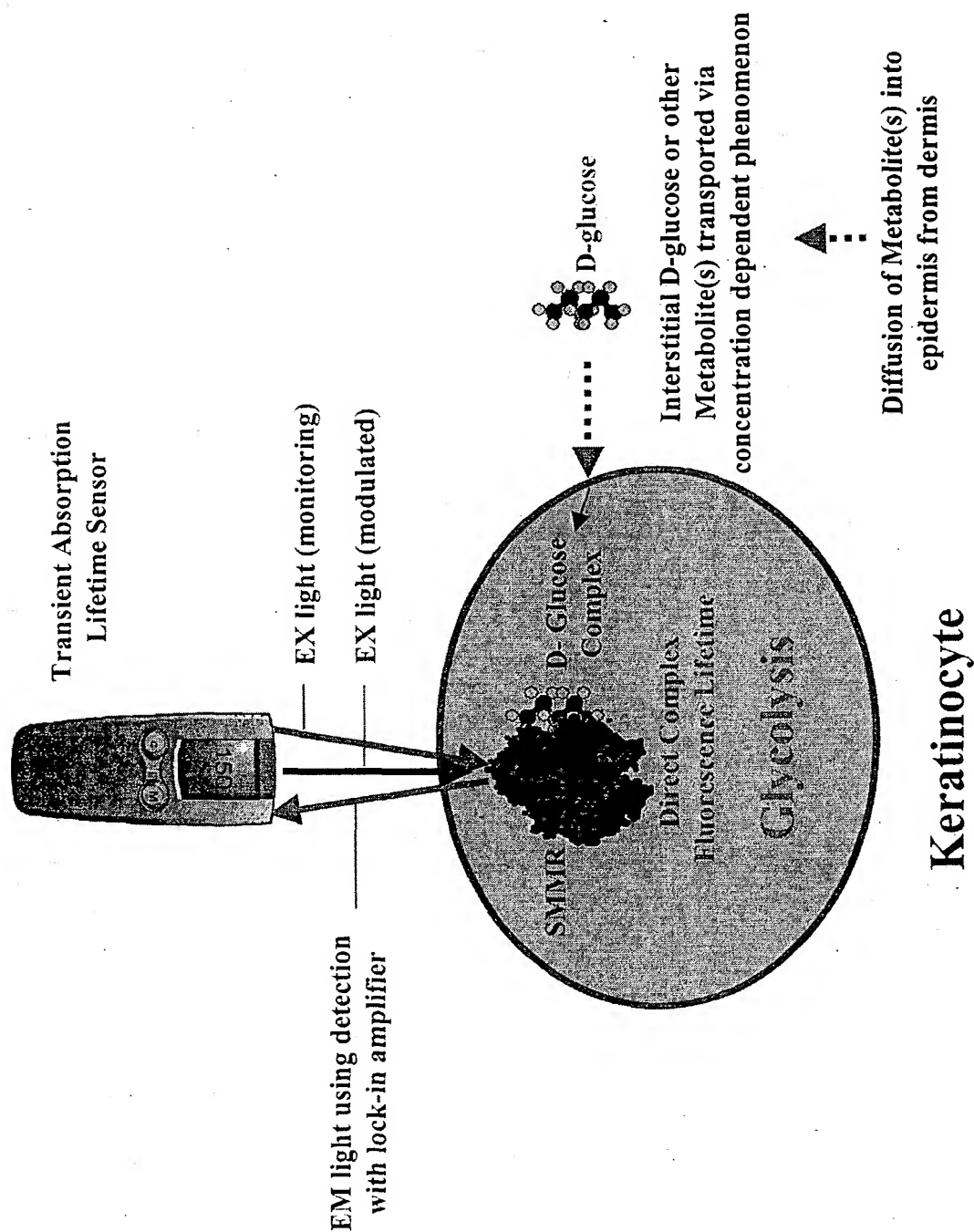


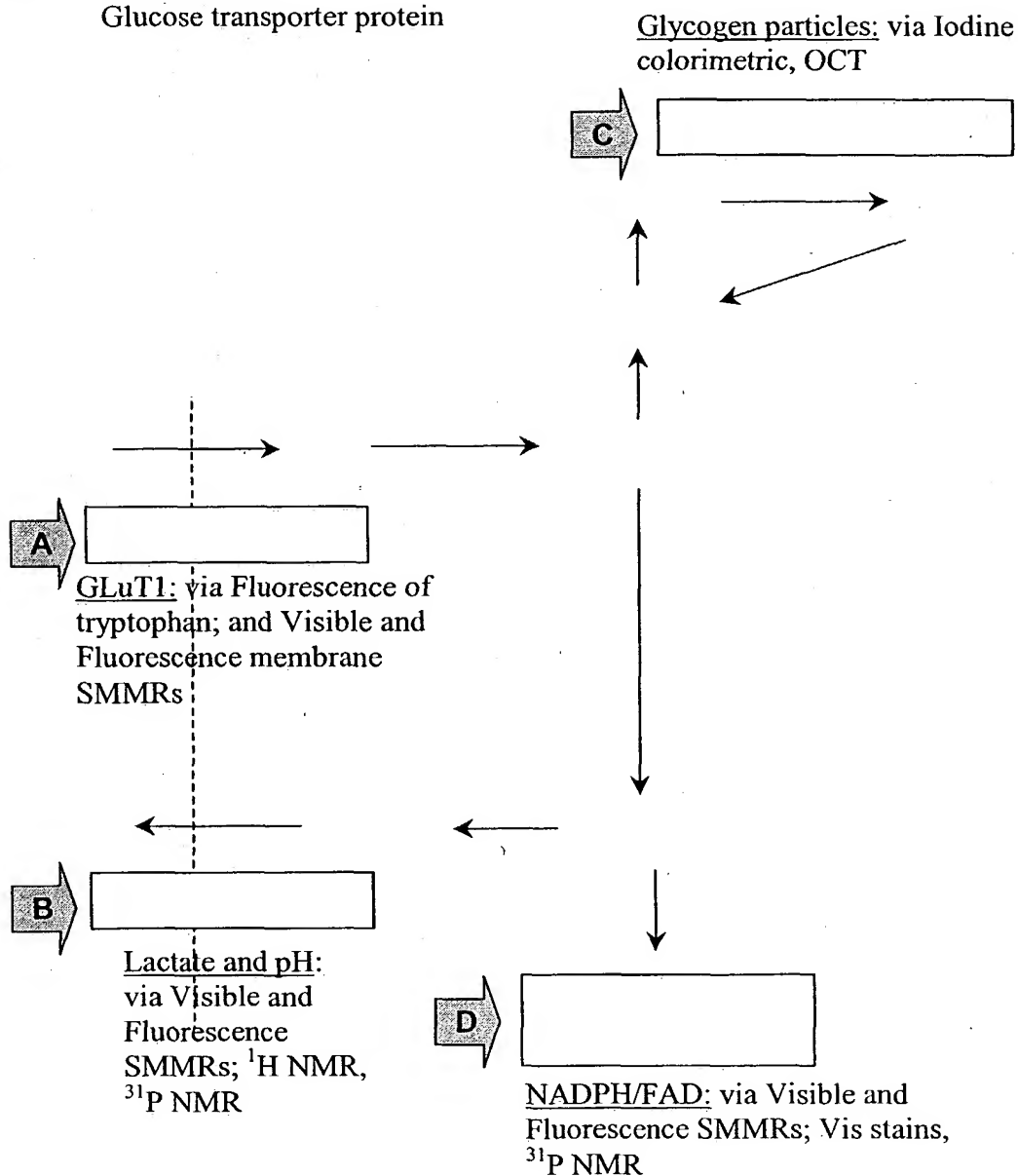
FIG. 16

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FIG. 17A

Scheme 1

| | |
|---------|-----------------------------|
| Glc | Intracellular glucose |
| Pyr | Pyruvate |
| Gl-6-P | Glucose-6-phosphate |
| Gl-1-P | Glucose-1-phosphate |
| UDP-Glc | UDP-glucose |
| GluT | Glucose transporter protein |



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FIG. 17B

Scheme 2. Overview of metabolic pathways for glucose in epidermis

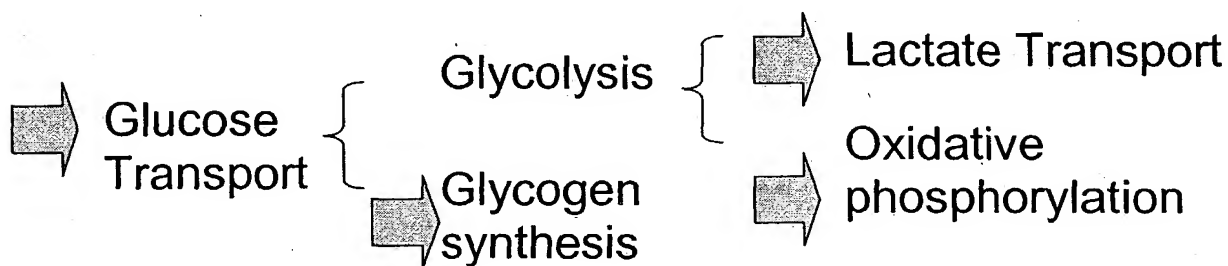
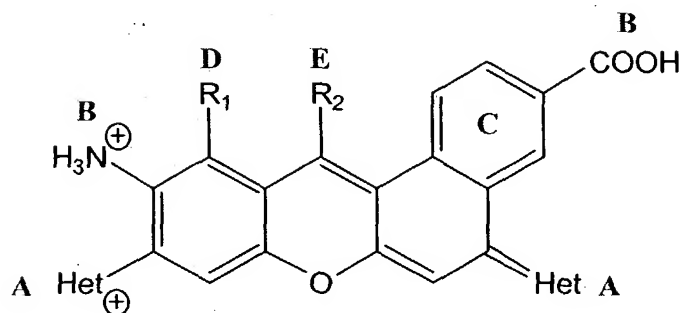
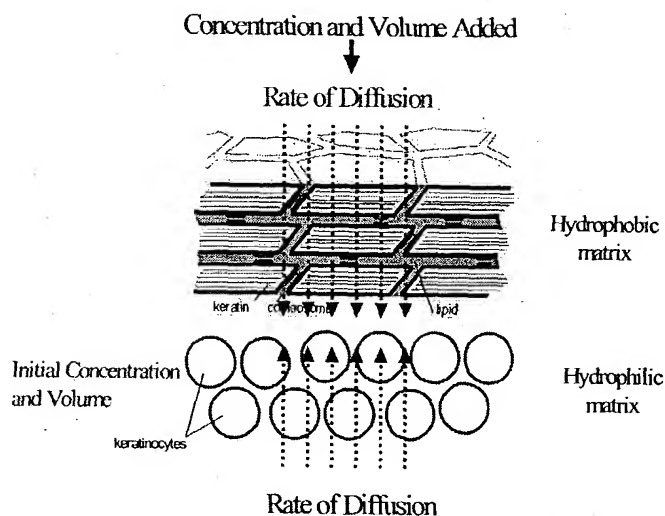


FIG. 17C

Scheme 3. Structure of generic pH sensitive dye for specific action as a lactate/H⁺ SMMR

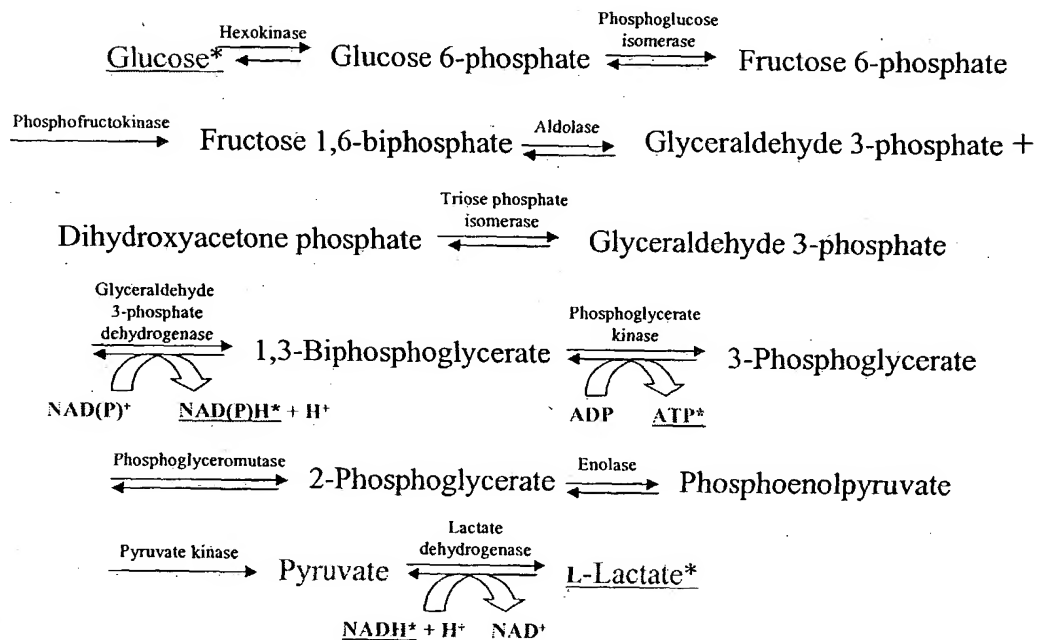


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Scheme 4. *In Vivo* Calibration Issues

FIG. 17D



*Target Analytes (direct or indirect)

GLUCOSE GLYCOLYSIS

FIG. 18